

POINTS TO CONSIDER

APPENDIX C

SUMMARY

Patients who receive bone marrow transplants from a mismatched or unrelated donor have a high risk of morbidity and mortality from viral infection during the period of immune deficiency which follows the procedure. One such problem that occurs in these patients is EBV lymphoproliferation due to outgrowth of EBV infected B cells that would normally be controlled by EBV specific cytotoxic T cells. This complication occurs in 5-30% of recipients of mismatched or unrelated transplants and is almost invariably fatal.

One possible approach to preventing this significant complication is to adoptively transfer EBV specific T cells from the BMT donor during the period when the recipient is at risk after the transplant. In this protocol we plan to evaluate this approach in a Phase I dose escalation study. Spontaneous lymphoblastoid cell lines which express the same range of EBV encoded proteins will be established at the time of confirmatory tissue typing and used as stimulator cells to derive EBV specific CTLs from donor blood obtained at the time of bone marrow harvest. Resulting cell lines will be characterized for EBV specificity and marked with the neomycin resistance gene. Marking these cells with the neomycin resistance gene is an important part of the study as it will allow us to learn how long these cells survive in the patient and whether expansion occurs in vivo. This information will be important in determining if the cells persist long enough to potentially confer protection and in determining appropriate doses and administration schedules.